



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/556,934

01/11/2007

Kazuo Yamashita

YAMA3053

3752

23364 7590 03/11/2011

BACON & THOMAS, PLLC  
625 SLATERS LANE  
FOURTH FLOOR  
ALEXANDRIA, VA 22314-1176

EXAMINER

SLIFKA, COLIN W

ART UNIT

PAPER NUMBER

1732

MAIL DATE

DELIVERY MODE

03/11/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/556,934	<b>Applicant(s)</b> YAMASHITA ET AL.	
	<b>Examiner</b> COLIN W. SLIFKA	<b>Art Unit</b> 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities: As stated in the prior action, the specification states that the aspect ratio is "of less than 3" (i.e. abstract and par. 10 of PGPub). The instant claims state that the precipitated calcium carbonate has an aspect ratio of "3 or more" (line 4). It is therefore unclear if the aspect ratio is 3 or more, as stated in the claims, or less than 3, as stated in the specification and abstract. It is noted that one of the sets of claims (filed November 16, 2005) refers to an aspect ratio of less than 3. According to Applicant's Remarks, it appears that the intended aspect ratio of the instant invention is "3 or more." Therefore, the Specification and Abstract need to be amended throughout to reflect said aspect ratio of "3 or more," instead of "of less than 3." It is noted that in Applicant's Remarks of January 19, 2011, Applicant states that amendments have been made in the instant application during the transition from the international phase to the instant national phase. It is not clear if Applicant meant only that the claims have been amended, or if Applicant also believes that the Specification and/or Abstract have been amended as well. Regardless, Examiner does not see any changes in the most recent Abstract and Specification. As such, the disclosure must be amended, as discussed above.

Appropriate correction is required. Either the claims or both the specification and the abstract must be amended throughout to be consistent with one another.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al (US 6,991,677) in view of Nakajima et al (US 5,292,495).

Tanabe discloses precipitated calcium carbonate particles, which are spindle-shaped, having a major axis of 1-4  $\mu\text{m}$  and a minor axis of 0.2-1  $\mu\text{m}$  (col. 5, lines 64-65). This allows for aspect ratios ranging from 1-20. Tanabe teaches that various shapes, including spindle, may be produced, but that spindle-shape calcium carbonate is preferred (col. 5, line 62-col. 6, line 6). Regarding the secondary particle of the instant claims, Tanabe teaches, in addition to the primary particle diameters, an aggregated particle diameter of “several to over ten  $\mu\text{m}$ ” (col. 8, lines 22-24). “Several to over ten” is considered to at least include ten and is also considered to include, to some extent, less than ten. Tanabe specifically teaches that the paper filled with the calcium carbonate is part of the invention (col. 8, lines 16-18).

Tanabe does not mention the BET surface area or the pore volume of the particles.

Nakajima discloses similar precipitated calcium carbonates. Nakajima teaches that there are known methods of producing aggregated calcium carbonate particles, wherein the particles are inherently not porous (col. 1, lines 41-51). Nakajima further teaches that for the calcium carbonated to be satisfactorily used in applications, including fillers for paper, it would be important that the primary particles to be inherently

Art Unit: 1732

porous with a decreased overall specific pore surface are, and increased overall pore volume (col. 1, lines 55-59). Nakajima further describes a method for producing such porous calcium carbonate particles having particle diameters from 1-20  $\mu\text{m}$ , overall pore volume from 1-2  $\text{cm}^3/\text{g}$ , and overall specific pore surface area from 2.5-10  $\text{m}^2/\text{g}$  (col. 2, lines 26-32). Nakajima teaches that the shape of the particles, including spindle-shaped, depends upon the special requirements in the unique applications of the powder (col. 1, lines 26-35).

Regarding claims 1 and 4, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the aggregated secondary particles of Tanabe with the above mentioned particle parameters as taught by Nakajima in order to achieve a final product which may be satisfactorily used in desired applications, as taught by Nakajima.

Tanabe, as combined with Nakajima, and the claims differ in that Tanabe (and Nakajima) does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the proportions taught by Tanabe and Nakajima overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the

motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Regarding claim 3, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”, (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious different between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Regarding claims 5, 6, 8, and 9, both Tanabe and Nakajima teach that the calcium carbonates may be used as filler for paper and Tanabe additionally claims the paper itself, as shown above.

Regarding claim 7, Tanabe teaches that the amount of filler added for paper making depends on the kind and quality of the finished paper product, but in general, ranges from 5-30% by weight (col. 7, lines 46-50). Tanabe further teaches that when

using the calcium carbonate as taught be Tanabe, the calcium carbonate filler may be used in amounts of 1% by weight or more (col. 7, lines 61-65).

### ***Response to Arguments***

Applicant's arguments have obviated the prior 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection regarding the aspect ratio of the instant claims. However, Applicant has argued that amendments have been made in the instant national phase. The only change apparent to Examiner is that the claims currently state that the aspect ratio is "3 or more." As addressed above, Applicant must amend the Specification and Abstract throughout to reflect "3 or more," as they currently state and aspect ratio "of less than 3."

Applicant's arguments filed January 19, 2011 have been fully considered but they are not persuasive. Applicant argues that the prior art references of Tanabe and Nakajima are not properly combinable because Nakajima teaches methods for treating naturally occurring calcium carbonate minerals, while the invention of Tanabe is directed toward synthetic calcium carbonate. Applicant further argues that the process of Nakajima is limited to use of such naturally occurring calcium carbonate materials because Nakajima makes no reference to synthetic, precipitated calcium carbonate. Examiner respectfully disagrees. It should be noted that the instant claims are drawn to a product, and not a method. Nakajima is not relied upon for the particular method or conditions taught. Rather, Nakajima is relied upon for the teaching of desired particle parameters, which are product limitations. Tanabe does not specify the surface area or

Art Unit: 1732

pore volume of the particles. Therefore, it would have been obvious to such values that are known in the art to be effective and desired, such as those taught by Nakajima. It is not clear to Examiner how being synthetic or natural limits either teaching. In fact, it might appear easier to manipulate the physical characteristics in synthetic materials, as they are made to desired specifications.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLIN W. SLIFKA whose telephone number is (571)270-5830. The examiner can normally be reached on Monday-Thursday, 9:00AM-5:00PM.



Art Unit: 1732

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLIN W SLIFKA/  
Examiner, Art Unit 1732

March 9, 2011

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1732